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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/543,831	04/05/2000	Frank Nuovo	477-007455-US	6261

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EXAMINER

GANTT, ALAN T

ART UNIT

PAPER NUMBER

2684

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/543,831

Applicant(s)

NUOVO ET AL.

Examiner

Alan T. Gantt

Art Unit

2684

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 2 and 22-27 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3-7 and 28-31 is/are allowed.
- 6) ☒ Claim(s) 8-13,15,19 and 32-34 is/are rejected.
- 7) ☒ Claim(s) 14,16-18, 20 and 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 8-11, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grisham, in view of Will.

Regarding claim 8, Grisham provides a telephone handset with a navigation key that provides a means for detecting the movement of the manipulandum or roller body at several discreet points around the neutral position. Grisham does not provide a control means for detecting the depression of the roller and providing a second control signal to a controller.

Will discloses a method and apparatus for control of a handheld miniature personal digital assistant, based on a user interface, with a menu and thumbwheel. Rotating the thumbwheel results in moving the cursor and consequently the designation of an item, while pressing the thumbwheel causes a pushbutton switch underneath the thumbwheel housing to be depressed which selects a menu item (col. 2, lines 60-67). The microprocessor causes a list of available operations to appear in the display upon the turning of the thumbwheel.

Grisham and Will share the same field of endeavor, namely, devices with navigation keys. Therefore, it would have been obvious to one of ordinary skill in the art to modify Grisham by causing a second control signal to be sent to the controller based on depressing the roller to allow for the a menu item to be selected.

Regarding claim 11, the manipulandum of Grisham contains an actuator which is serving as the navigation key, a carrier in the form of a spherical plate that keeps the actuator upright and centered, a supporting means in the form of a housing with screws and springs holding the carrier in place, and a mechanical biasing means in the form of the screws and springs for the support housing serving to keep the actuator centered and keeping the integrity of its at rest position (col. 3, line 30 to col. 4, line 10). Grisham does not provide a detection means that provides a second control signal for a force counteracting the biasing force.

Will provides a detection means when action (in the form of pressure by the user's thumb) is taken against the spring supports against the "carrier" by causing a switch (serving as a selector button) beneath the thumbwheel housing to be depressed (Figure 4A and col. 6, lines 40-48). Depression of this switch causes a control signal input to the microprocessor for selecting the menu item on the display (col. 5, lines 7-27).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Grisham by providing a selector button that would be depressed after sufficient pressure was exerted to provide a means to allow for more menu options or selections to be available to the telephone user.

Regarding claim 9, Will allows for items contained in a displayed list to be specified by the user or otherwise edited (col. 7, line 58 to col. 8, line 37).

Regarding claim 10, Will allows for copying operations and menu from outside sources such as transferring of data from a work station telephone directory to the internal directory of a cellular phone using the telephone circuit to transfer data (col. 13, lines 23-52).

Regarding claim 19, Will allows for encoder means aligned with the roller body for detecting the rotation of the body and providing a control signal based on this rotation (col. 6, lines 2-29).

3. Claims 12, 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grisham, in view of Will, as applied to claim 11 above, and in further view of Nishiyama et al.

Regarding claim 12 and 13, Grisham and Will provide a navigation key structure with constituent parts as called out in claim 11. However, Grisham and Will do not contain a carrier comprising a shaft part retained between two plate shaped end parts where the end parts are joined by at least one beam-shaped leg part extending along the shaft part.

Nishiyama discloses a portable radio telephone set with a display, a rotary function selector, and a group of button keys for symbol entry that are within the operational range of the thumb and one hand operation (Abstract). The rotary selector is a navigation key that is cylindrical and extends perpendicular to the longitudinal axis of the phone. The structure is such that a shaft is placed between two plate-shaped end pieces or sleeve flanges (Figure 5, ref. 20), the roller body is placed for rotation along and with relation to the shaft (col. 6, line 12 to col. 7, line 54). The selector presented as a solid piece around the shaft joins the sleeve flanges, although obviously hollow area could have been designed into the selector in the form of one or more beam-shaped leg parts extending the length of the shaft. The selector, being solid, makes for a stiff structure (Figure 5, ref. 18).

Grisham, Will, and Nishiyama share the same field of endeavor, namely navigation key structures. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Grisham and Will by using a shaft assembly for placement of the roller body to allow for an alternative navigation key structure for the customers who prefer this option.

Regarding claim 15, Nishiyama provides for a cylindrical or barrel-shaped roller body that has a through bore that surrounds a shaft (Figure 5).

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4. Claims 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grisham, in view of Macor.

5. Regarding claims 32-34, Grisham discloses a manipulandum contained in a portable housing unit adapted for use in a telephone handset that fits in one hand and the manipulandum is within an area reachable by the thumb (Figure 6). The embodiment that is used as a telephone handset has the manipulandum, which serves as a navigation key, located between a display and the alphanumeric keys on the front surface of the handset as an extension of the middle of three columns of alphanumeric sign keys (col. 4, lines 21-27). The manipulandum extends through an opening and the axis is perpendicular to the longitudinal axis of the phone. The unit is essentially cylindrical with the length and diameter about the same size and width of the sign keys (typically, in the order of 8 to 14 mm).

Macor discloses a personal telecommunication device that allows the user to operate the device as a telephony device or an electronic messaging device with one finger by using virtual function keys appearing at a function display. A depressible trackball maneuvers a cursor or location indicator by rotating the ball. Rotating the trackball allows the user to select a virtual function key which allows the user to enter the call mode, the directory mode, the electronic message mode, or program mode. Depressing the trackball selects the desired mode. In its idle mode, the device gives these four mode choices at startup and rotating the trackball positions the cursor at the desired mode. The trackball extends partly through an opening in the front surface of the phone. Obviously the axis of rotation can, by design, be chosen to be perpendicular to the longitudinal axis of the phone. Also, it is obvious that, for a given mode there will be a definite number of valid positions during the rotation of the trackball for moving the indicator (cursor).

Grisham and Macor are combinable because they share a common endeavor, namely portable telephone devices with several modes operable with one finger. At the time of the applicant's invention it would have been obvious to modify Grisham to include a depressible roller body as done by Macor. The motivation to combine would have been to extend the functionality of the hand held device.

Allowable Subject Matter

6. Claims 1, 3-7, and 28-31 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: Regarding claim 1, a telephone handset having a navigation and selection key that includes a roller body that is fully rotatable and that is allowed to adopt a predetermined number of valid positions during rotation for moving the cursor and that can be depressed to request performance of an action in dependence of the position of the cursor was neither found, suggested, nor made evident by the prior art.

7. Claims 14, 16-18, 20, and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The very specific nature of the navigation structure of claims 14 **was not found, suggested, or made evident by the prior art.** Claims 16-18, 20 and 21 were dependent upon claim 14 and as such would also be allowable.

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Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Haeusler discloses an encoding apparatus having an improved code, permitting error reading and error detection.

Any inquiry concerning this communication from the examiner should be addressed to Alan Gantt at telephone number (703) 305-0077. The examiner can normally be reached between 9:30 AM and 6 PM within the Eastern Time Zone. The group FAX number is (703) 308-6306.

Any inquiry of a general nature or relating to this application should be directed to the group receptionist at telephone number (703) 305-4700.

Alan T. Gantt

February 23, 2003


Alan Thomas Gantt
ALAN THOMAS GANTT
PATENT EXAMINER